

# [CIRCUIT AND METHOD FOR PULSE WIDTH MODULATION ]

## Abstract

A circuit and a method for performing pulse width modulation are provided. A pulse density modulator (PDM) is applied to receive the least N bits of the input data and to generate a pulse density modulation signal. The number of pulse of the pulse density modulation signal in  $2^N$  frames correspond to a value of the least N bits of the input data. An adder is applied to generate a PWM data by adding a value of the most M bits of the input data to a value of the pulse density modulation signal generated by the PDM. A pulse width modulator is applied to generate a PWM signal dithering in  $2^N$  frames according to the PWM data generated by the adder, so as to improve the audio quality of pulse width modulation and the Electro-Magnetic Interference (EMI) phenomenon.